

ABSTRACT OF DISCLOSURE

A laser scanning unit includes a housing; an optical system disposed in the housing and including an optical source which emits a laser beam, a polygonal mirror which scans the laser beam, and a plurality of optical elements which image the laser beam on an image surface; a motor disposed in the housing and which rotates the polygonal mirror; and a motor drive chip disposed outside of the housing and which uses a sensorless algorithm to control a rotation speed of the motor.